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Assessing the Impact of Mercury Bioaccumulation in Mammoth Cave National Park

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Abstract

This project will examine the fate and transport of mercury in Mammoth Cave National Park, which has an extensive karst ecosystem. Contaminant transport in karst systems (limestone based surface geology) is rapid and extensive. Mercury's mobility in surface and ground water is of great concern due to its toxicity and ability to bio-magnify within food chains. However, mercury interacts with limestone, thus impairing its mobility. A number of federally listed species are declining in the parks. Further, Kentucky has issued a statewide mercury fish consumption advisory. With eight new coal-fired power plant applications under consideration in Kentucky, the potential exists for increased mercury deposition. Acquiring an understanding of mercury's bio-magnification through the food-chain, with an emphasis on federally listed species, will enhance NPS's ability to obtain emission reductions.